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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,852	01/04/2002	Michael A. Filipiak	63428-063	6735

26096 7590 04/21/2006

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400 WEST MAPLE ROAD  
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BIRMINGHAM, MI 48009

EXAMINER
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FENSTERMACHER, DAVID MORGAN

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/037,852

Applicant(s)

FILIPIAK ET AL.

Examiner

David M. Fenstermacher

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5,6,13-21,27 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,6,13-21,27 and 29-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is final.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 32 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not understood how one arm is fixed and the other is allowed to move. The device is disclosed as having serrated balls which are clamped between ball halves. This would lock the balls or not lock them, depending on the clamping force used; therefore, it is not understood how one ball could ever be free and the other fixed.

4. Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear how the pair of faces defines the socket. The socket is defined by the spherical recess.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 6, 13, 16-18, 20, 27-33, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (USPN 5,973,248).

Chen discloses a ball and socket assembly (30) comprising: a socket component including a pair of sockets (331, 341) and a pair of opposed inclined edges (insides of sockets are opposed inclined edges); each of said pair of opposed inclined edges defines an opening for each of said part of sockets; and a ball component (41, 40) received in each of said pair of opposing sockets;

wherein said ball component includes a ball (41) and an arm (40), and said ball is received in said socket to allow for pivotal adjustment of said arm and one of said arm and said ball extends from said opening.

each of said openings expose a portion of each of said balls in each of said pair of opposing socket;

each of said inclined edges are inclined relative to a lower edge and an upper edge of said socket component;

said arm has a range of motion of 90°.

***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5, 14-15, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (USPN 5,973,248) in view of Herbermann (USPN 5,383,738).

Chen discloses the sockets cover more than one half of a surface area of said balls; wherein said socket component includes a first clamp half and a second clamp half that are secured together to form said pair of sockets; wherein said first clamp half and said second clamp half are secured together by a pair of bolts (353, 353') located substantially between said pair of sockets; wherein said first clamp half and said second clamp half are secured together by four bolts (333, 333, 333', 333'), one of said bolts being located over one of said sockets, another of said bolts being located under said socket, one of said bolts being located over the other of said sockets and one of said bolts being located under the other of said sockets; further including a gap (see fig. 3) between said first clamp half and second clamp half; wherein each of said pair of inclined edges are inclined approximately 75° (since socket is circular an infinite number of angles occurs in the socket including 75°) from a lower edge of said assembly; said gap is adjustable.

Chen does not disclose said balls are made of a ball material harder than a socket material of said sockets;

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said sockets are made of aluminum;

and said balls are serrated.

Herbermann discloses balls made of a material harder than a material of said sockets (see column 2, lines 47-48);

said sockets are made of aluminum (see column 3, lines 63-65);

and said balls are serrated (column 2, lines 58-59).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ball joint mechanism of Chen by forming the hardness of the balls greater than the hardness of the sockets for the purpose of making the female socket more prone to radial deformation, furthermore, so the ball joint will be able to support heavier loads (see column 1, lines 31-37 of Herbermann).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ball joint mechanism of Chen to form the sockets of aluminum for the purpose of lowering the weight of the mechanism; thus improving the efficiency and overall cost of operation of the device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the balls of Chen with serrated surfaces for the purpose of reducing any tendency of slipping between the ball and the socket (see column 2, lines 64-65 of Herbermann).

***Response to Arguments***

9. Note that the Chen reference is not a robotic arm. It is believed that Chen still anticipates the claims since a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976); Kropa v. Robie, 88 USPQ 478, 481 (CCPA 1951).

9. Applicant's arguments with respect to claims 5-6, 13-21, 27, 29-33 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

### **Certificate of Mailing**

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Registration Number: \_\_\_\_\_

Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Fenstermacher whose telephone number is 571-272-7102. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David M. Fenstermacher  
Primary Examiner  
Art Unit 3682

4/19/06